INTERACTIVE PRESENTATIONS AS ACCESSORIES TO MUSEUM EXHIBITS

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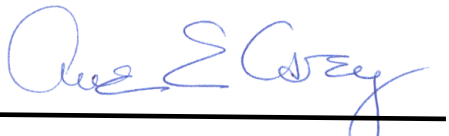

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TABLE OF CONTENTS

ABSTRACT

The announcement of the collaboration between the American Museum of Natural History (AMNH) and the Center of Science and Industry (COSI) towards the creation of a permanent dinosaur exhibit gave rise for the opportunity to create a presentation that would help enhance the public's perception of topics not explicitly touched upon in the exhibit itself. Analysis of the exhibit outline before public release allowed for the selection of topics specifically related to paleontology and plate tectonics that would be effective in supplementing the information already on display. The presentation was designed through the use of textbooks, lecture materials, and online resources in order to gather recent, scientifically accurate information that could then be simplified for public reception. Public response to the inclusion of the presentation as an exhibit supplement was high, especially to the plate tectonics aspect. Continual revisions and enhancements to the presentation will allow for public engagement to remain high when interacting within the exhibit.

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Introduction

Since the turn of the 21st century museums have been attempting to increase visitor satisfaction in order to produce high return rates and steady profits, along with driving new sales. While the creation of new permanent exhibits and the inclusion of regularly changing traveling exhibits do result in an increase in attendance, long term stability is the continuous goal. Studies, such as those done by Hornecker and Stifter (2006), have shown that hands-on interaction and visitor engagement lead to an overall enjoyment of an exhibit and museum as a whole.

The collaboration between the American Museum of Natural History (AMNH) and the Center of Science and Industry (COSI) in Columbus, Ohio to create a new, permanent dinosaur exhibit gave rise to the opportunity to design an interactive presentation that a paid employee or volunteer could use to interact with museum guests in order to enhance their experience when taking in the exhibit. The primary objectives of this project are to understand how the public views and engages with interactive presentations and then design a presentation to go along with the new dinosaur hall that would help the public understand the concepts presented within the exhibit in an educational, memorable, and overall fun manner.

METHODS

Topic Selection

The selection of topics for inclusion within the presentation were initially part of a master list that was compiled before the layout for the exhibit was fully revealed to those involved as part of the project. Once the layout was revealed, along with the specific path that visitors would take and the topics that would already be included within the exhibit design, the list was narrowed down to include topics related to paleontology, plate tectonics, and dinosaur evolution.

Presentation Writing

After the topics were selected, it was determined that the best way to present the topics would be to correlate them to specific locations in the exhibit in order not to only answer individual questions by visitors to the exhibit but also to enhance specific aspects of the exhibit. By utilizing textbooks and lecture materials from classes, along with online media sources from academic sources, a multiple page presentation was written. Textbooks included *Global Tectonics, Evolution,* and *Essential Ornithology,* which provided both historic tectonic movements during the Mesozoic and evolutionary relationships between birds and dinosaurs. Lecture notes from The Ohio State University's *Dynamics of Dinosaurs* class were also used to supplement the inclusion of how birds are considered dinosaurs. The information was originally compiled in a bullet point format, separated into multiple categories and subcategories. The information was then compiled in a dialogue format, with the creation of questions in order to engage visitors as they walked through the exhibit. During the reformatting, the information was also revised to be more understandable for visitors with non-science backgrounds and for employees and volunteers who do not have an Earth science-based education or background. The

format was then made to appear similar to other COSI presentations in order to remain consistent across topics.

Supplemental Material

Following the creation of the written presentation, work was then done to determine what could be done to supplement the presentation itself from a visual aspect. An iPad was purchased to use as a display, and multiple apps were selected that were found to be acceptable supplements to the presentation itself that accurately reflected the information that was being included. These apps were then incorporated into the presentation itself, in order to assist visitors in more effectively visualizing the concepts that were being introduced to them.

Presentation

Once the script had been written and the apps had been acquired, the presentation was then brought to the floor in order to assess its effectiveness at engaging visitors to the exhibit. The area at which the presentation was given continually rotated among three locations in order to determine which location was the most successful in garnering the attention of visitors. These locations were the cast/fossil hall, the extinction hallway, and the modern dinosaurs hall. Different parts of the presentation were also chosen to assist in assessing which information was found most insightful and beneficial by visitors.

RESULTS

It is not possible to get numerical data that directly correlate to the effectiveness of the designed presentation to the public's perception and overall enjoyment of the exhibit as a whole due to that information being considered highly confidential by the Center of Science and Industry as it can be used to influence future decisions. What can be inferred however is that visitors who actively engaged with both the presenter and the presentation did in fact take away more from the exhibit as a whole than those who walked by and failed to engage with the presentation. Furthermore, while there is no numerical evidence as to which aspect of the presentation was deemed most effective or engrossing, empirical evidence does suggest that visitors were more interested in learning more about the theories and processes behind plate tectonics than either paleontology or evolutionary relationships. This was determined by observation of both the area at which the presentation was occurring within the exhibit and how the public responded to the addition of supplemental material at the specific location.

Discussion

Even though there is no possibility of getting the exact statistical information to determine how effective the presentation was in supplementing and enhancing visitor experience, there is valuable information to be taken from the process as a whole. It was clearly evident from visitor reaction that the presentation did in fact play a role in their immersion within the exhibit, primarily within the extinction hall when presented with evidence regarding plate tectonics. Previous research undertaken in the early 21st century such as that by Hornecker and Stifter (2006) demonstrated that museum visitor interaction is increased when visitors come in contact with both interactive and digitally supplemented exhibits. This was further supported through the responses garnered from volunteer response surveys filled out by visitors who experienced the exhibit. However, caution must be taken in regard to the exact interpretation of this as with all volunteer responses. There could be a bias both for or against the presumption due to who is most likely to fill out a response when asked. An attempt to gather more accurate information was made by having those who are members of COSI fill out individual responses during their early access period as these individuals would be the most likely to be fully honest out of all visitors due to their continuous support of COSI and its exhibits.

The understanding that engagement was highest in regard to the plate tectonics presentation in the extinction hallway can be explained through that hallway being not only the smallest part of the exhibit, but also the least fleshed out in relation to information and how it is presented. Visitors seemed more interested in learning about information that was not readily available by reading placards and displays; however, their initial engagement seemed hesitant due to the possible avoidance of interacting with a staff member within the exhibit. This could potentially be explained as being due to fear of being embarrassed by specific questions they

might ask, or general dialogue with strangers. Overall the research was successful in determining how the public might respond and react to a new, beneficial interactive presentation.

Evidence was also gathered that demonstrated that a deeper understanding of the material presented within an exhibit was better understood when a staff member was stationed nearby, as the staff could act not only as an extension of the exhibit itself in the form of their presentation, but also as an expert who can help to explain topics and answer questions that visitors may have. This is another way in which the exhibit is enhanced by the addition of a staff member being present during visitor hours.

Conclusions

The objective of this study was to design and confirm that public interaction and response to a museum exhibit is higher when there is an interactive portion within the exhibit itself. While direct statistical evidence cannot be provided due to confidentiality reasons, all evidence supports the hypothesis that an additional interactive experience included within the exhibit leads to a more immersive and enjoyable experience that yields a high return rate by visitors. Furthermore, certain topics appear to be more of interest than others when linked to the content of the exhibit itself. This supports a presentation style that consists of multiple topics in order to narrow down what exactly the public expresses interest in learning more about, allowing for the continued evolution and enhancement of presentation materials.

The results of this study allow for a revision and potential redesign of the existing presentation in order to completely fulfill the public's perception of what the exhibit should entail, further giving COSI a leg up on other museums that also contain dinosaur displays. The involvement of staff members within the exhibit as a constant presence is also important to note, as their easy accessibility assisted in the enjoyment of the exhibit by the visiting public.

Recommendations for Future Work

In future work regarding the public presentation of scientific material in order to enhance visitor experience, the logical first step would be the analysis of different parts of the presentation to determine which part is most effective at engaging the public's deepening interest in geologic history. Using the information presented here, a future researcher could then redesign the existing presentation in order to engage individuals to a higher degree. The information could also be used to create new and exciting presentations that engage the public in different ways that does not include negative aspects identified by public response. Furthermore, research could be done comparing the effectiveness between interactive exhibits that both have a staff member present as a supplement or lack a staff member in order to determine which is more found enjoyable by the public.

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